

19. (New) The method of claim 17, wherein δ_p and δ_s are measured in $(\text{cal}/\text{cm}^3)^{0.5}$, and wherein δ_s is within 1 $(\text{cal}/\text{cm}^3)^{0.5}$ of δ_p .

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20. (New) The method of claim 17, wherein the surface is contacted with the solution for less than about 60 seconds.

21. (New) The method of claim 17, wherein the dye comprises a photochromic dye.

22. (New) The method of claim 17, wherein the dye is selected from the group consisting of a cosmetic tinting dye, an infrared absorbing dye, a laser radiation absorbing dye, an ultraviolet absorbing dye and combinations thereof.

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23. (New) The method of claim 17, wherein the dye and the plasticizer are infused up to about 150 microns deep into the surface.

24. (New) The method of claim 17, further comprising the step of: heating the plastic to evaporate the solvent, following said contacting step.

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25. (New) The method of claim 24, wherein the plastic is heated to a temperature below the glass transition temperature of the plastic.

26. (New) The method of claim 17, wherein the plastic material comprises polycarbonate and the solvent is selected from the group consisting of tetrahydrofuran, a chlorinated hydrocarbon, and combinations thereof.

27. (New) The method of claim 26, wherein the plasticizer is selected from the group consisting of polyethyleneglycol dibenzoate, pentaerythritol tetrabenzoate, dioctyl phthalate, dipropyl phthalate, dimethyl phthalate, dioctyl adipate and dioctyl sebacate.

28. (New) The method of claim 27, wherein the dye comprises a photochromic dye.

29. (New) The method of claim 17, wherein the plastic material is selected from the group consisting of polymethyl methacrylate and polycarbonate-polyester copolymers; and

the solvent is selected from the group consisting of tetrahydrofuran, a chlorinated hydrocarbon, and combinations thereof.

30. (New) The method of claim 29, wherein the plasticizer is selected from the group consisting of polyethyleneglycol dibenzoate, pentaerythritol tetrabenzoate, dioctyl phthalate, dipropyl phthalate, dimethyl phthalate, dioctyl adipate and dioctyl sebacate.

31. (New) The method of claim 30, wherein the dye comprises a photochromic dye.

32. (New) The method of claim 17, wherein the plastic material comprises

polystyrene and the solvent is selected from the group consisting of tetrachloride, methyl isopropyl ketone, and propyl propionate, and combinations thereof.

33. (New) The method of claim 32, wherein the plasticizer is selected from the group consisting of dioctyl phthalate, dipropyl phthalate, and dimethyl phthalate.

34. (New) The method of claim 33, wherein the dye comprises a photochromic dye.

35. (New) The method of claim 17, wherein the plastic material comprises polyethylene terephthalate and the solvent is a chlorinated hydrocarbon, and combinations of chlorinated hydrocarbons thereof.

36. (New) The method of claim 35, wherein the solvent is selected from the group consisting of chlorobenzene and chlorostyrene, and combinations thereof.

37. (New) The method of claim 36, wherein the plasticizer is selected from the group consisting of dioctyl phthalate, dipropyl phthalate, and dimethyl phthalate.

38. (New) The method of claim 37, wherein the dye comprises a photochromic dye.

39. (New) An article having a mixture infused therein by a solvent comprising:
a plastic material having a surface and a solubility parameter δ_p ; and
a mixture of dye and a plasticizer infused into the surface, with said
mixture having been infused while being dissolved in an aggressive solvent having a
solubility parameter δ_s near δ_p .

40. (New) The article of claim 39, wherein the plastic material comprises a plastic
matrix and the plasticizer induces local surface mobility within the plastic matrix.

41. (New) The article of claim 39, wherein δ_p and δ_s are measured in $(\text{cal}/\text{cm}^3)^{0.5}$,
and wherein δ_s is within 1 $(\text{cal}/\text{cm}^3)^{0.5}$ of δ_p .

42. (New) The article of claim 39, wherein the dye comprises a photochromic
dye.

43. (New) The article of claim 39, wherein the dye is selected from the group
consisting of a cosmetic tinting dye, an infrared absorbing dye, a laser radiation
absorbing dye, an ultraviolet absorbing dye and combinations thereof.

44. (New) The article of claim 39, wherein the dye and the plasticizer are infused
up to about 150 microns deep into the surface.

45. (New) The article of claim 39, wherein the plastic material comprises polycarbonate and the solvent is selected from the group consisting of tetrahydrofuran, a chlorinated hydrocarbon, and combinations thereof.

46. (New) The article of claim 39, wherein the plasticizer is selected from the group consisting of polyethyleneglycol dibenzoate, pentaerythritol tetrabenzoate, dioctyl phthalate, dipropyl phthalate, dimethyl phthalate, dioctyl adipate and dioctyl sebacate.

47. (New) The article of claim 46, wherein the dye comprises a photochromic dye.

48. (New) The article of claim 39, wherein the plastic material is selected from the group consisting of polymethyl methacrylate and polycarbonate-polyester copolymers; and the solvent is selected from the group consisting of tetrahydrofuran, a chlorinated hydrocarbon, and combinations thereof.

49. (New) The article of claim 48, wherein the plasticizer is selected from the group consisting of polyethyleneglycol dibenzoate, pentaerythritol tetrabenzoate, dioctyl phthalate, dipropyl phthalate, dimethyl phthalate, dioctyl adipate and dioctyl sebacate.

50. (New) The article of claim 49, wherein the dye comprises a photochromic dye.

51. (New) The article of claim 39, wherein the plastic material comprises polystyrene and the solvent is selected from the group consisting of tetrachloride, methyl isopropyl ketone, and propyl propionate, and combinations thereof.

52. (New) The article of claim 51, wherein the plasticizer is selected from the group consisting of dioctyl phthalate, dipropyl phthalate, and dimethyl phthalate.

53. (New) The article of claim 52, wherein the dye comprises a photochromic dye.

54. (New) The article of claim 39, wherein the plastic material comprises polyethylene terephthalate and the solvent is a chlorinated hydrocarbon, and combinations of chlorinated hydrocarbons thereof.

55. (New) The article of claim 54, wherein the solvent is selected from the group consisting of chlorobenzene and chlorostyrene, and combinations thereof.

56. (New) The article of claim 55, wherein the plasticizer is selected from the group consisting of dioctyl phthalate, dipropyl phthalate, and dimethyl phthalate.

57. (New) The article of claim 56, wherein the dye comprises a photochromic dye.